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## COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS.

U. S. DEPARTMENT OF AGRICULTURE  
AND STATE AGRICULTURAL COL-  
LEGES, COOPERATING.

STATES RELATIONS SERVICE, OFFICE  
OF EXTENSION WORK, NORTH AND  
WEST, WASHINGTON, D. C.

## COUNTY AGRICULTURAL AGENT WORK IN THE NORTHERN AND WESTERN STATES.

STATUS AND RESULTS IN 1916.

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### INTRODUCTION.

During the fiscal year ended June 30, 1917, the number of county agents in the 33 Northern and Western States increased from 419 to 542. With the appointment of two agents in Nevada early in the year, all these States have now taken up the work. Connecticut, Delaware, and New Hampshire have an agent for each county. The map (fig. 2) shows the counties in which the work is now in progress, and the diagram (fig. 3) shows the comparative development in the various



FIG. 1.—The county agent is a teacher who teaches by demonstration and example. In the illustration he is “showing” a group of farmers how to mix fresh lime-sulphur spray.



States at the time this circular is written. About 33 per cent of the total agricultural counties have taken up the work.

### THE WORK DEFINED.

County-agent work is an organized method of doing agricultural extension work in a county through a permanent local leader who represents the State agricultural college and the United States Department of Agriculture in their relations to the people in matters pertaining to agricultural-extension work, and who is also the official medium through whom the people can most readily deal with these public institutions in such matters. He thus is in a sense a county-agricultural extension director whose authority, though limited by contract and memorandum, is recognized as establishing his leadership; and, whose duties, though restricted by written projects, involves his interest in all that makes for the advancement of economic and social life among rural people.

### ADMINISTRATION AND SUPERVISION OF THE WORK.

The work is conducted by cooperation between the State agricultural colleges and the United States Department of Agriculture under a memorandum of understanding signed by the president of the State agricultural college and the Secretary of Agriculture, and in pursuance of a project agreement arranged between the extension division of the college and the States Relations Service of the department. The work in the States is administered by an extension director and is directly supervised by a county-agent leader and his assistants, who are joint employees of the agricultural college and the United States Department of Agriculture. There now exists in most counties a local organization, usually known as a farm bureau, which cooperates with the extension division of the college in the employment of the agent and advises with the county-agent leader in the determination of projects to be undertaken and with the county agent in their execution. These local bureaus in their administrative functions correspond with the college and the United States Department of Agriculture as illustrated in the diagram in figure 4, page 6.

The United States Department of Agriculture does not deal directly either with the farm bureau or the county agent. Under the memorandum of understanding above referred to its cooperation is with the State agricultural college and the administration of the work is intrusted to the extension director.

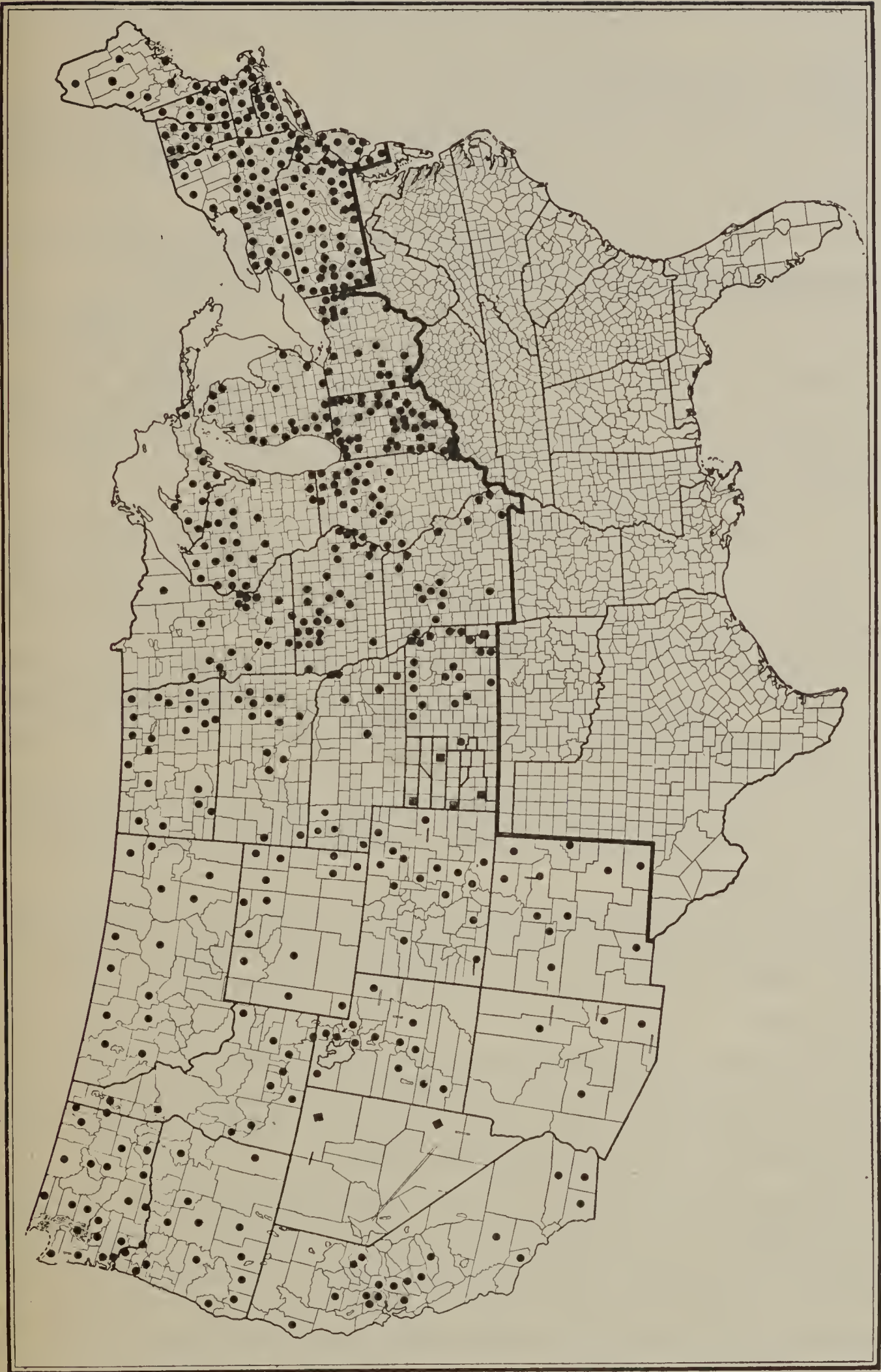


FIG. 2.—Map showing the location of county agents in the Northern and Western States.



## DUTIES OF THE COUNTY-AGENT LEADER.

As the direct supervisory official representing both the State and Government, the county-agent leader has very important duties to perform.

1. He is charged with acquainting the people of the various counties in which agents are not yet employed with the general nature of the work and with the steps to be taken in order to secure the appointment of an agent.

2. He assists counties in the organization of farm bureaus and in making preparation for the employment of a county agent.

3. He brings to the attention of county authorities and farm bureaus men whom he considers qualified to act as county agents.

4. After the county agent is employed he acquaints him with the work and personnel of the agricultural college and experiment station and introduces him to the agricultural leaders in the county to which he is assigned.

5. He assists the new agent and the farm bureau in planning a program of work and in so dividing the responsibilities and duties as to beget general interest locally and to develop local leadership among the farmers.

6. He attends such meetings of the farm bureau and its executive committee as is possible for him and keeps the membership of the bureau acquainted with the general development of the work in the State and Nation.

7. He receives the reports of the county agents and summarizes them for the State extension director and the United States Department of Agriculture.

8. He is the immediate person through whom the county agent and the farm bureau deal with the agricultural college and through whom is cleared most of the correspondence of the college with the county agent.

9. He arranges for annual, semiannual, or quarterly conferences of the county agents at the agricultural college or elsewhere for the purpose of developing plans for systematic work and coordinating the work of the agents throughout the State.

10. He maintains a bureau for the interchange of ideas, through the publication of a State county-agent news-letter or otherwise; for furnishing charts, lantern slides, or other illustrative material; for furnishing bulletins and other literature; and for obtaining the assistance of agricultural specialists when needed to further the work of the agent.

11. He devises follow-up methods for increasing the efficiency of the work and securing reliable data as to the results of work in the counties.

12. Through correspondence with national officials, by attendance at national conferences, and visits to other States he keeps informed as to the progress of the work and adopts such new ideas as seem adapted to local conditions.

The ideals, character, extension, and efficient execution of the work in a State are commensurate in a large measure with the enterprise, enthusiasm, industry, and tact of the county-agent leader and his assistants.

#### THE FARM BUREAU.

A farm bureau is an association of people interested in rural affairs, which has for its purpose the development of a more economic agriculture, the establishment of community ideals, and the furtherance of all efforts of the people, the State, and the Government for the well-being, prosperity, and happiness of country people. Membership in a farm bureau is open to any resident in the county interested in country life, or to nonresidents who are farm owners in the county. Men, women, and children may be members of the bureau on such terms as the constitution of the association may determine. Most farm bureaus have a membership fee of \$1 or more per year, though in a few cases there is no membership fee, the revenues of the associations being derived from contributions from other rural organizations. For most conditions a farm bureau based on a paid membership is most satisfactory.

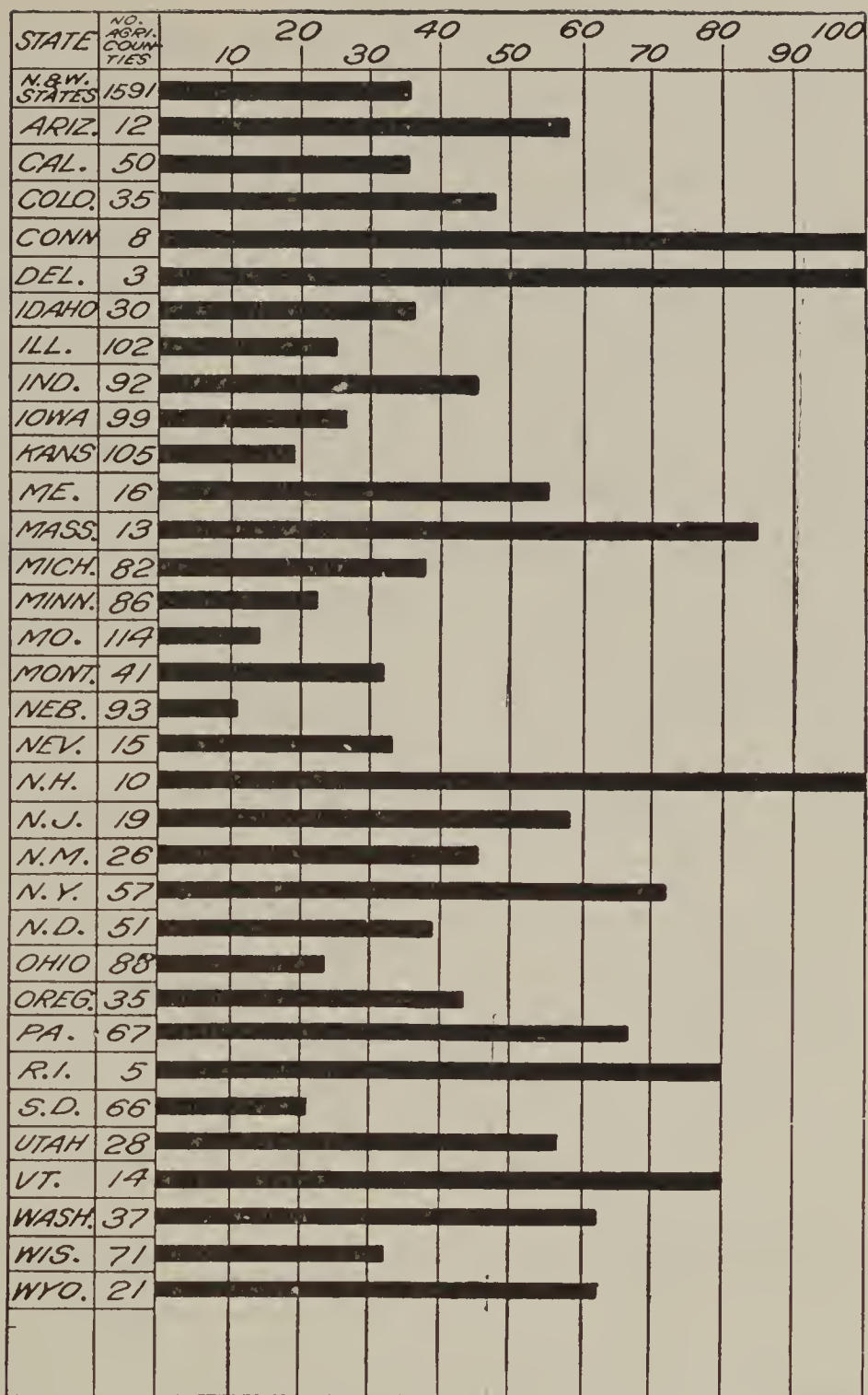


FIG. 3.—Diagram showing the comparative development of county-agent work in the North and West. The length of the bar shows the percentage of the counties with agents, June 30, 1917.



The officers of a farm bureau consist of a president, vice president, secretary-treasurer, and an executive committee elected at an annual meeting from the membership of the bureau. The president, vice president, and secretary-treasurer perform the duties usually devolving upon such officers and are ex officio members of the executive committee. In addition to the above officials the executive committee usually consists of six or more members who, acting together, constitute the governing board of the bureau. These additional members should be so chosen as to give representation to existing farmers' organizations. Each member is usually charged with leadership in some particular project authorized by the committee.

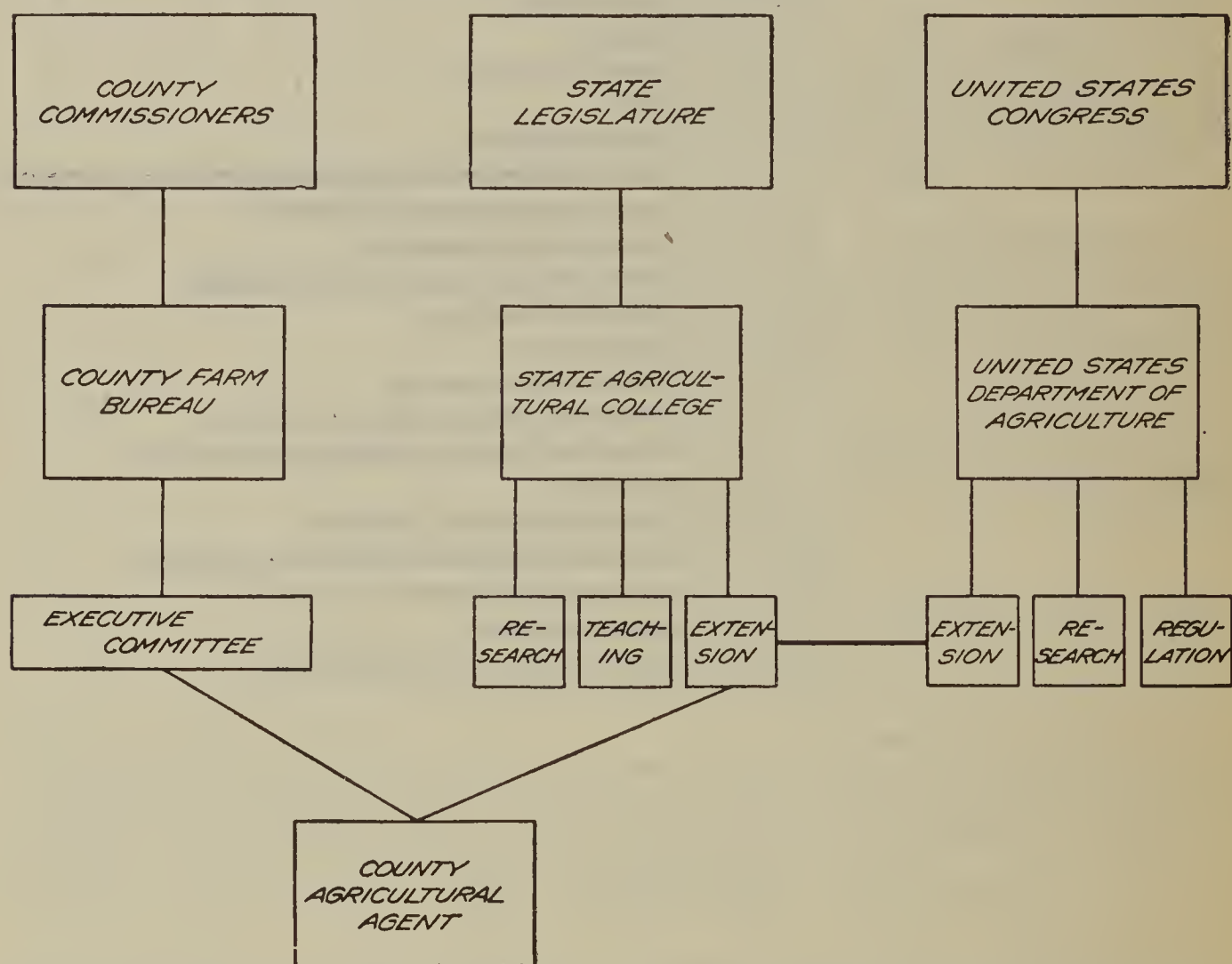


FIG. 4.—Diagram showing the relation of the county agent to public and semipublic institutions.

Such projects may be dairy improvement, boys' and girls' club work, farm sanitation, home-economics work, farm-management demonstrations, horticulture, soil improvement, live stock, farm crops, markets, cooperative purchasing, farm labor, rural credits, etc. As a rule, the work assigned to a member of the executive committee is some subdivision of the above, to which the bureau is devoting special attention at that time, as cow-testing associations, canning demonstrations, sanitary methods in the control of hog cholera, home study clubs, etc. The county is divided into communities, and a committee is appointed by the president of the association from the membership of the farm bureau in each community, a community



being a group of people having a common interest and a common meeting place. These community committees are charged with the execution of the plans formed by the bureau and with making requests for assistance and suggesting matters needing attention. Each community committee elects a chairman, who is a member of the county agricultural council, made up of the chairmen of the various communities and presided over by the president of the association.<sup>1</sup>

In the earlier stages of the work there were a great variety of associations known by various names, all established for the same purpose. The type above described has been found to be adapted to a great variety of conditions in the West, Central West, and in the East. The farm bureau, while largely a development imposed by necessity in the furtherance of county-agent work, is really possessed of broader powers than the county agent, and may engage in many activities which would not be proper for the county agent as a public official to undertake. As they relate themselves to county-agent work these functions of the farm bureau are as follows:

1. To afford the county agent an intimate contact with the representative leaders of farm affairs in the county.
2. To secure the assistance of these leaders in determining what ought to be done for the improvement of farming and farm life.
3. To take the leadership in the development of each project undertaken.
4. To take responsibility in securing local public funds for carrying on the work.
5. To provide an organization by which the county agent can easily and quickly reach every community in the county with information.
6. To secure farmers who will carry on demonstrations.
7. To supervise local demonstrations, arrange for demonstration meetings and institutes, provide for follow-up work, assist in and ascertain the spread of influence, and report the results.

A county agent's success is usually determined by his ability to work with other people, to inspire local leadership and self-help, and through the farm bureau make his work with individuals of value to the whole people. The 374 farm bureaus in the Northern and Western States with a membership of 98,654 constitute the most potent force in connection with county-agent work, and there can be little question but that they are thus far one of the most important results of the county-agent movement. That there is a place for the farm bureau in rural development is no longer questioned. The past year has done much not only to establish the necessity of such an organization as a cooperative agency in county-agent work, but to

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<sup>1</sup> For a complete organization scheme with methods of work, see Circular No. 4, Office of Extension Work, North and West.



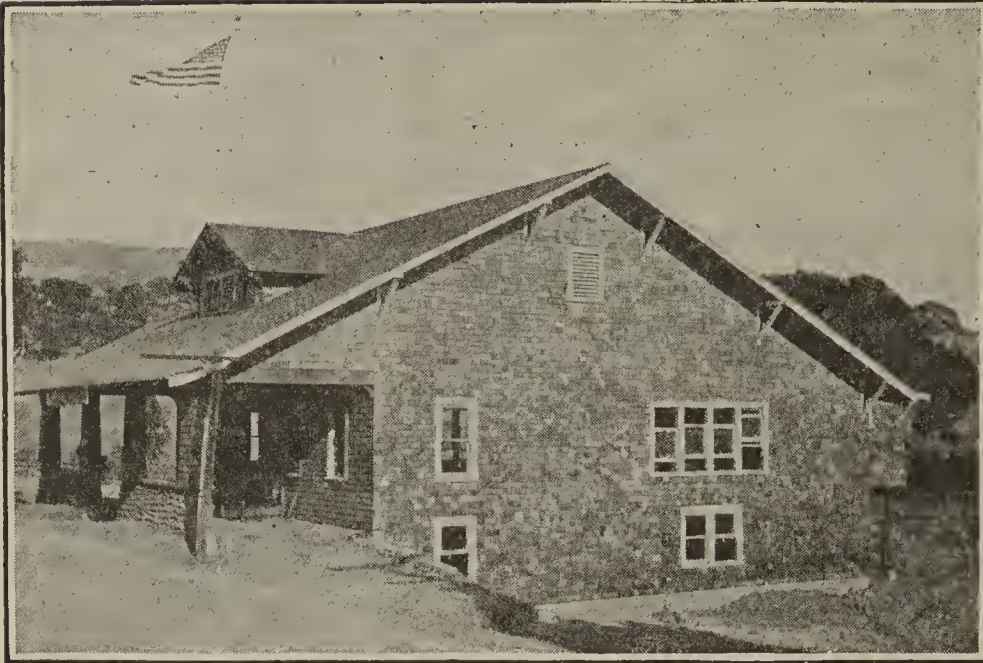


FIG. 5.—Mount George Farm Bureau Center Hall, Napa County, Cal.

standardize the framework of the bureau and develop its broader opportunities for service. The organization of a farm bureau should usually precede the appointment of the county agent. Many States now make the organization of such an association a condition

precedent to the appointment of an agent. It is believed that this is a wise course to pursue. If such an organization does not exist it should be the first duty of the agent to develop it.

In some counties, notably in California, several of the farm bureaus have built community halls where the regular meetings are held and which also serve as social centers for the communities. Figure 5 shows such a hall built of contributed material and by volunteer labor.

#### THE COUNTY FARM BUREAU MONTHLY.

Several of the farm bureaus have undertaken the publication of a small monthly news letter to the members of the association. Arrangements for the publication of this monthly are usually made with some local printer and it is issued as second-class mail matter, in this manner securing free circulation within the county. The subscription price is usually 50 cents per year, which is collected with the membership fee to the bureau. In a few cases the news letter is sent out under postage. The subject matter of the paper is largely devoted to the work of the bureau and the demonstrations of the county agent and should not enter the field of either the local newspaper or the agricultural press. In many cases the local papers republish articles from the monthly in their columns and so give the matter wider publicity. The county agent may contribute freely to its columns, but it should be published under the auspices of a committee of the farm bureau. A farmers' exchange list and such advertising as does not usually appear in the local papers may be carried in the monthly. Such a publication keeps the whole membership of the farm bureau regularly in touch with all the work that is going on in the county and has given uniformly good results wherever undertaken. There are now nearly 100 such publications.



## FINANCING THE WORK OF THE COUNTY AGENT.

When the work was begun in the Northern and Western States no small amount of the funds for the support of the work came from nonpublic sources which were used to supplement the small amount of funds available from the State and the Government. This timely assistance from disinterested commercial agencies greatly stimulated the development of the work. The tendency has been to replace these private contributions with public funds as rapidly as possible. The work is a public service, in the immediate interest of the farmers, it is true, but for the ultimate good of all, and should be supported largely if not wholly from public funds. One of the purposes of the passage of the Smith-Lever Act was to provide funds for the gradual and complete development of county-agent work which had already been started in several of the States. In addition to direct congressional appropriations to the States Relations Service of the United States Department of Agriculture and the Federal Smith-Lever funds which each State receives from the United States Treasury, there is available for the support of county-agent work the State offset to these funds, State appropriations for general extension work, and in some States specific appropriations for county-agent work. County and town governments in most of the States are authorized to appropriate local public funds for the work. Under most conditions there should be very substantial financial support from local sources. The salary of the agent should be wholly from public funds, though there is perhaps no good reason why private individuals or institutions may not endow or temporarily assist in the payment of the expenses of the farm bureau or the agent. The average salary of a county agent in the Northern and Western States is about \$2,000 per annum and the average annual expenses amount to about \$1,000.

## QUALIFICATIONS OF AN AGENT.

The county agent's position is essentially one of leadership. The following qualifications are those which experience has shown it is desirable an agent should possess.

1. Maturity of judgment: Ability to see things in their relations.
2. Country mindedness: To sympathetically understand the farmer's problems.
3. Enthusiasm for farming: A genuine love for the farm and country life.
4. Farmer psychology: To know the workings of the farmer mind, its strength and weakness; the farmer's principles and prejudices; and the right way to his confidence and respect.
5. Clearness of expression: Ability to divest a technical subject of scientific phraseology and present facts in the language of the people.





FIG. 6.—The county agent conducts parties of farmers to the field for the purpose of study and observation.

There are many college graduates on farms, but the average farmer, like the average town man, never completed the eighth grade school work.

6. Recognition of the farmer's practical sense.

7. Tact: Ability to "get along" with people and the ready power to appreciate and do what is required by circumstances.

8. Reserve force: A conserved resourcefulness available in emergencies to overcome obstacles.

9. Experience in farming: Preferably after leaving college.

10. Good health and a willingness to work hard.

11. Broad knowledge of the general underlying science relating to agriculture.

12. The graduate of an approved agricultural college.

The average county agent in the Northern and Western States is a married man, 31 years old, a graduate of an agricultural college, and has had experience in the ownership or management of a farm.

#### DUTIES OF COUNTY AGENTS.

The original conception of a county agent was that he was an "expert," an "agriculturist," a "farm adviser," performing a sort of country-doctor type of service, available at all times on demand to prescribe for agricultural ills, and deliver on short notice information and personal assistance. Such a conception of the work while once seriously entertained has been found to be inaccurate, because:

1. A county agent can not be an expert in all lines of farming and for this reason in many, if not in most, cases can not give expert advice or render personal help.

2. If he were competent to be a farm adviser he could not reach in person all the people needing him.

In contradistinction to this idea, unfortunately still too prevalent, the real duty of the county agent is that of a teacher and county leader. As such, his duties are:



1. To demonstrate established agricultural facts that are of value to the community but not yet generally practiced. (See figs. 1 and 6.)

2. To make available to the people of the county the results of agricultural experiments and to assist in determining the application of these principles to local conditions.

3. To search for the best there is in the farm practice of good farmers in the county and to give the widest possible publicity to their work.

4. To study farming in all its relations and assist in the establishment of a system of farm management that is most profitable and consistent with a permanent agriculture.

5. To be interested in and render such assistance as is consistent with his prescribed duties to all work undertaken in the county for the improvement of farming or the advancement of rural life.

6. To develop and inspire local leadership and inculcate high community ideals, to stimulate cooperation, and help the rural people in their organized capacity through the farm bureau and all other local associations, to make farming an attractive business and country life satisfying to man, woman, and child.

As a teacher he teaches by demonstrations rather than by books, by object lessons rather than by lectures. Not only does he see that his demonstrations demonstrate, but he capitalizes all the teaching forces in the county in giving the results of the tests or demonstrations the widest possible publicity. In carrying out his demonstration he works with individuals, but the benefit to the individual worked with is incidental. His real purpose is to reach the community through his demonstrations and so benefit all. The necessity for conducting the demonstration ends only when its lesson has been accepted and becomes the common practice of the community where it is conducted. This is illustrated in the effect of oat-smut demonstrations and seed-corn testing demonstrations. In many counties having had agents three years, it is no longer necessary to stress these matters, as the great majority of the farmers treat their seed oats for smut and test their seed corn for germination. In other counties the sanitary precautions which should be taken in the control of hog cholera, the value of prompt inoculation of sick animals, and the enforcement of police regulations are so universally recognized as a result of demonstrations that have been conducted that no further demonstrations need be given. When this condition obtains a project may be said to be completed.

#### **EQUIPMENT FOR COUNTY-AGENT WORK.**

The county agent is essentially a field man. He spends more than three-fourths of his time in the open country with the farmers, in their fields, barns, and homes. His work takes him into all parts of

the county and he must have a rapid and reliable means of travel. The automobile is now in almost universal use for this purpose. The following items of field equipment are useful and usually should be provided:

1. A good camera for photographing results of demonstration work and agricultural conditions for use in illustrated news articles, making lantern slides, illustrating charts, circulars, and reports.
2. A good stereopticon with supply of slides made from views illustrating local conditions and demonstrations.
3. A stencil outfit for chart making.
4. A duplicating outfit for getting out circular matter.
5. An addressograph for getting out mailing list.
6. A soil auger and a soil acidity testing apparatus.
7. A magnifying glass for seed examination.
8. A surveyor's instrument and chain for replanning fields, laying out drainage systems, measuring demonstrations, etc.
9. Sample cases showing pure seed, fertilizing materials, harmful insects, plant diseases, etc.

There are other items of special equipment needed to meet conditions in certain localities, such as Babcock tester, pruning knife, syringe, caponizing outfit, etc.

Most of the county agents have regular office headquarters and have at least one regular office day each week at which time they can be consulted by farmers, when reports can be made and correspondence attended to. The county agent should have a permanent clerk who should also be a stenographer. The clerk should be at headquarters during the usual business hours to answer telephone calls, make engagements, handle routine correspondence, send out bulletins and circular material, make up reports, file matter, etc. It is poor economy to make it necessary for a county agent to do the work that can as well be performed by a clerk. The office should be well equipped with desks, chairs, tables, and filing cabinets.<sup>1</sup> About 50 per cent of the county agents have adequate stenographic and clerical assistance. A well-equipped, well-ordered office makes it possible for the agent to devote more time to the field, it develops self-respect and systematic work. It makes reporting easy and makes possible careful follow-up methods.

#### ASSISTANT COUNTY AGENTS.

During the year a few of the States, notably California, New York, and Oregon, have begun the employment of assistant county agents, either for short periods or permanently. Two plans are being followed: One, the assignment of the assistant to a particular county for

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<sup>1</sup> See "An office filing system for county agricultural agents in Northern and Western States," Circular No. 2, Office of Extension Work North and West.





FIG. 7.—A sign along the highway calls the attention of the passer-by to the demonstration work under way.

continuous work; the other, the maintenance of a corps of assistant county agents and their assignment to counties where and when the stress of work demands. Both plans are successful and are to be encouraged. The salary of these assistants is usually quite nominal, as the young men taking up the work are ambitious to become county agents. It not only is a means of securing high-class help but affords opportunity of trying out prospects and preventing expense and serious mistakes in the selection of men for county agents. Already several promotions have been made from assistant county agents to county agents, while others have discovered that they were not adapted to the work.

#### METHODS OF WORK.

The county agent should not only plan his work but work his plan. He plans his work by a field study of conditions, by consulting with leading farmers, and particularly by conferences with the executive committee and agricultural council of the farm bureau. When the matters to be undertaken have been decided upon the methods of putting them into execution is taken up with the county-agent leader and through him with the subject-matter specialists at the agricultural college, who are specialists in regard to extension teaching and methods. In conference with them, written projects are developed which set out in great detail the means that are to be used to carry out the plans agreed upon. These details involve the number and the location of the demonstrations, assistance to be rendered by the specialists, the publicity campaign, the marshaling of all possible teaching forces in the county, the demonstration meet-



ings, the securing of definite data, the follow-up work, and the spread of influence. All these things are carefully provided for in the project.

In developing a county program of work as great pains must be taken by the agent to avoid conflicting projects as the farmer does to avoid competing crops. The projects determined upon should secure for the agent a "seasonal distribution of labor" so that he may always give attention to the project when attention is needed. The number of projects to be undertaken is of course dependent upon the time necessary to care for them. As a rule county agents are likely to undertake too much work. This is particularly likely to be true during the first year. Careful attention to the development of a program of work and detailed projects have done much to overcome this tendency. The past year has witnessed great progress not only in the definite planning of the work but in giving strict adherence to the plan. A careful survey indicates that about 70 per cent of the agents are now using written projects. In making the plan the agent uses everyone who can and is willing to work. He personally supervises the demonstrations and assures himself of the trustworthiness of the result. He sees that they are properly posted. He arranges through local committeemen for demonstration meetings when the demonstrations are ripe and conducts excursions of farmers to his own demonstrations and to farms that illustrate the lesson sought to be taught. He spreads the news by means of the local press, by circular letters, through granges, equities, farmers' clubs, at farmers' institutes and extension schools (see fig. 8), through the public schools, and through any other available channel.



FIG. 8.—The county agent uses the extension schools to spread the news of his demonstrations.



The benefits that grow out of any sort of educational work are difficult to determine. The intangible influence may often be much greater than that which can be expressed. Nevertheless, the agents secure and record such results as are measurable in increased yield and money value, more for their teaching value as clenching the demonstration than as a means of measuring the value of the work. Such results as are reported in this circular are of this class. There is no practicable method of even approximating the value of the agent's work.

### FOLLOW-UP WORK AND SPREAD OF INFLUENCE.

An unfortunate lack of what commercial firms would call follow-up work has been a common weakness of extension teaching. The instruction in the farmers' institute may have been excellent and the speakers inspiring, but with the close of the meeting the work usually stopped until another year. The bulletin was sent out filled with good advice but no letter or visit followed it to see if the advice was acted upon. The advent of the county agent really makes follow-up work possible. In well-planned demonstration work there is the preliminary campaign through the press, by circular letter, and at meetings to arouse interest. The demonstrations themselves are planned to prove the practicability of the method being advocated. They are located so as to be easily accessible. They are brought to the personal attention of as many as possible. The results of the demonstration are spread by means of posters, charts, lantern slides, reports, and meetings. Pledges are secured from as many as possible that they will put into operation on their own farms the methods illustrated by the demonstration. Before the time to act on the pledge comes letters are sent calling attention to the promise; a timely bulletin on the subject or a special circular containing simple directions, gotten up by the agent, tells how to do the work. A report is called for; if possible a friendly call is made and so, year after year, the follow-up work continues until the desired result is obtained and the new method established. This is "follow-up" work and represents the prime requisite of effective extension work. It requires the same intelligent, patient attention that is devoted to an advertising campaign by an enterprising commercial agency in the sale of its wares, and the results should be as satisfactory. In addition to the already long list of qualifications of a county agent he should possess some of the attributes of the successful advertising man and commercial traveler. He is in a sense a "drummer" except that he gives away "samples" of information instead of selling goods. The principles of good salesmanship apply to county-agent work. A thorough course in the principles of salesmanship might

well be a part of the equipment of everyone taking up county-agent work. In a large measure these principles are being followed by successful agents. During the year the need of definite follow-up plans and devices has been emphasized and the results have been more than commensurate with the effort.

If an acid test were to be applied to county-agent work it would not be measured by increased bushels, tons, or acres; by higher yields; or increased profits. These things are interesting and significant but they are not the true yardstick. The worthiness of the work is determined by the number of farmers who adopt the improved methods or the "spread of influence." This spread of influence is both direct and indirect and neither can be accurately de-

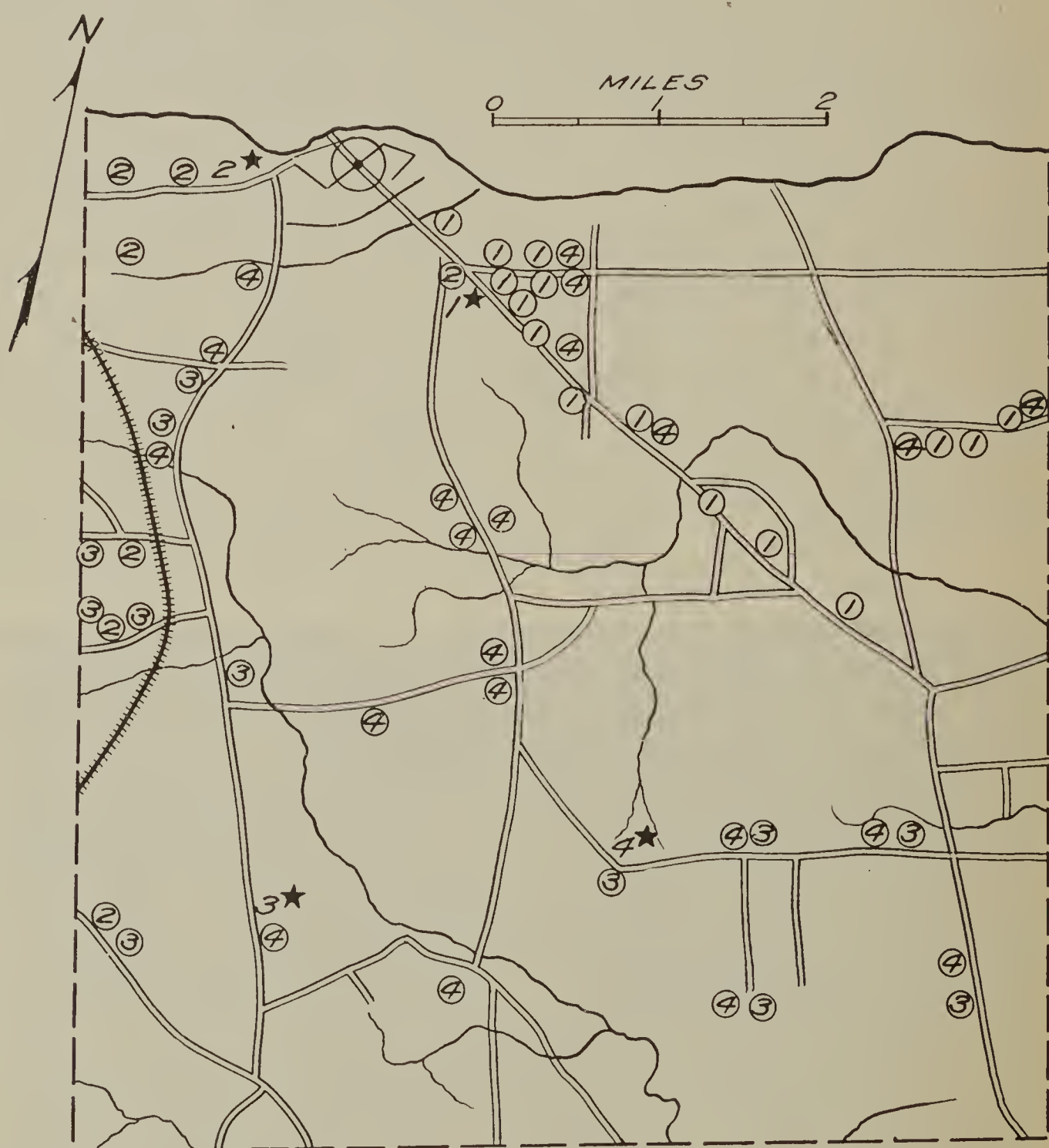


FIG. 9.—Spread of influence from economic production of live-stock demonstrations in the town of Dover, Piscataquis County, Me., 1916. Location of: 1\*, dairy demonstrator; 1, farmers who copied methods from this demonstration; 2\*, swine demonstrator; 2, farmers who copied methods from this demonstration; 3\*, dairy demonstrator; 3, farmers who copied methods from this demonstration; 4\*, swine demonstrator; 4, farmers who copied methods from this demonstration.



terminated, though the direct spread of influence can in some cases be closely approximated. In one county in Maine 680 persons are known to have copied the demonstrations of the agent. No attempt was made to measure the indirect influence. In each case the improvement was a direct result of a demonstration. A good demonstration, like "a good deed in a naughty world," goes on multiplying its influence every time it is copied. The chart in figure 9 shows the spread of influence from demonstration work in one town in Piscataquis County, Me.

In addition to the spread of influence shown in the diagram the county agent has record of 27 farmers outside of this town who copied the demonstration.

### RESULTS OF COUNTY-AGENT WORK IN 1916.

The data given in the following tables summarizes a few lines of work that can be tabulated. In accomplishing these results and others that can not be tabulated, the agents made 221,654 farm visits. They received 245,227 office calls, wrote 18,818 press articles, sent out 1,791,298 circular letters, wrote 436,496 special letters to farmers, held 36,640 meetings at which the attendance was 2,134,477 people. They conducted 2,388 extension schools which were attended by 357,807 people. They conducted 900 observation tours which involved 53,601 persons and organized 2,633 boys' and girls' clubs with a membership of 49,279. In 8,461 cases they called to their assistance some specialist from the college or department. The results secured must in some degree be credited to the good work of these men.

### WORK WITH CROPS.

In the following table is summarized the more important lines of work relating to crop production as taken from the annual reports of the agents for 1916:

*Some results of county-agent work in relation to crops.*

Line of work.	Number.	Agents reporting.
Corn:		
Farms selecting seed corn in fall.....	31,532	259
Aeres planted with fall-selected seed corn.....	745,137	181
Farms testing seed corn for germination.....	30,213	211
Aeres of corn planted with tested seed.....	922,889	207
Farms growing corn for silage.....	15,022	229
Aeres of corn grown for silage.....	194,795	218
Wheat:		
Farms on which assistance was given in wheat production.....	9,509	204
Total aeres of wheat so grown.....	296,837	203
Oats:		
Farms treating seed oats for smut.....	53,131	232
Aeres sown with treated seed.....	1,281,118	228
Potatoes:		
Farms on which seed potatoes were treated for disease.....	8,232	269
Aeres of potatoes planted with seed treated for disease.....	30,522	268

*Some results of county-agent work in relation to crops—Continued.*

Line of work.	Number.	Agents re- porting.
Hay:		
Farms on which assistance was given in hay production .....	3,750	157
Total acres of hay so grown.....	39,537	150
Alfalfa:		
Farms on which assistance was given in alfalfa production.....	8,313	345
Total acres of alfalfa so sown on above farms.....	50,605	337
Sweet clover:		
Farms on which assistance was given in sweet clover production.....	1,874	225
Acres of sweet clover so grown.....	24,825	224
Soy beans:		
Farms on which assistance was given in soy bean production.....	3,410	195
Total acres of soy beans so grown.....	21,480	190
Cowpeas:		
Farms on which assistance was given in cowpea production.....	951	79
Total acres of cowpeas so grown.....	7,290	78
Rye:		
Farms on which assistance was given in rye production.....	1,679	176
Total acres of rye so grown.....	30,815	177
Barley:		
Farms on which assistance was given in barley production.....	1,603	117
Total acres of barley so grown.....	27,238	120
Orchards:		
Orchards in which horticultural practices were improved.....	5,853	309
Trees in orchards so cared for.....	1,158,075	273

The data involved in the above table cover a great variety of projects. The following instances are illustrative of the character of work represented.

#### OAT-SMUT CAMPAIGN.

In New York all the county agents were engaged in a campaign to eradicate oat smut. In this campaign 4,011 oat-smut posters were put up, 33,657 leaflets giving methods of treatment were distributed, and 80 window displays made in the various counties; 772 demonstration meetings were held at which quantities of seed oats were treated. These meetings were attended by 10,025 farmers. A specialist from the agricultural college rendered assistance in nine of the counties. Five thousand four hundred and forty-five farmers signed pledge cards agreeing to sow 81,845 acres with treated seed, which amounted to 11 per cent of the total acreage of oats in the 36 counties involved. Of those agreeing to treat their oats during this campaign, less than 15 per cent had done so in previous years. To determine the effect of the treatment, careful counts of smutted heads were made in 614 fields sown with treated seed, in which were found but 0.61 per cent of smut. At the same time counts were made in 458 fields of those who failed to respond to the campaign and sowed untreated seed. In these fields were found 8.14 per cent of smutted heads. The average increased yield due to treatment, based on percentage of smut in treated and untreated fields amounted to 3.3 bushels per acre which at the average price of oats in the State at the market price amounted to \$1.85 per acre. It was found that many farmers who did not sign



pledge cards had treated their seed and the total acreage directly influenced by the campaign amounted to 103,724, which means an increased value due to the treatment of \$191,888, or an average of \$22.38 per farm. The entire cost of the treatment including labor did not amount on the average to more than \$1 per farm. The success of this campaign was due to excellent organization; careful follow-up work, and enthusiastic cooperation of the farm-bureau committees. Without the help of the farm bureau the work would have been impossible. A similar campaign was conducted in Indiana, which yielded an increased value of \$312,273. The above is illustrative of the methods pursued in connection with the 1,281,118 acres on which the seed oats were treated for smut in the North and West during the past year due to educational campaigns by county agents. Of the above total, 407,114 acres were involved in demonstrations on which the increased yield due to treatment was determined. The average increased yield on all these demonstrations amounted to 4.6 bushels per acre, which represents a total increased value of \$1,197,722. (See table, p. 24.)

#### IOWA SEED-CORN SELECTION CAMPAIGN.

The seed-corn situation in Iowa in 1916 was bad; all the agents were involved in a campaign for careful attention to seed selection. For purposes of illustration the campaign in Black Hawk County will be briefly stated. The work began in the fall of 1915. Meetings were held, posters and circulars were sent out, and the local press used to induce farmers to select seed corn in the fall. At a series of corn shows, held during the winter, 300 samples were tested to show poor seed condition. Interest began to be aroused. Early in the spring information on testing seed corn was put into the hands of all the boys and girls in the country schools. Each

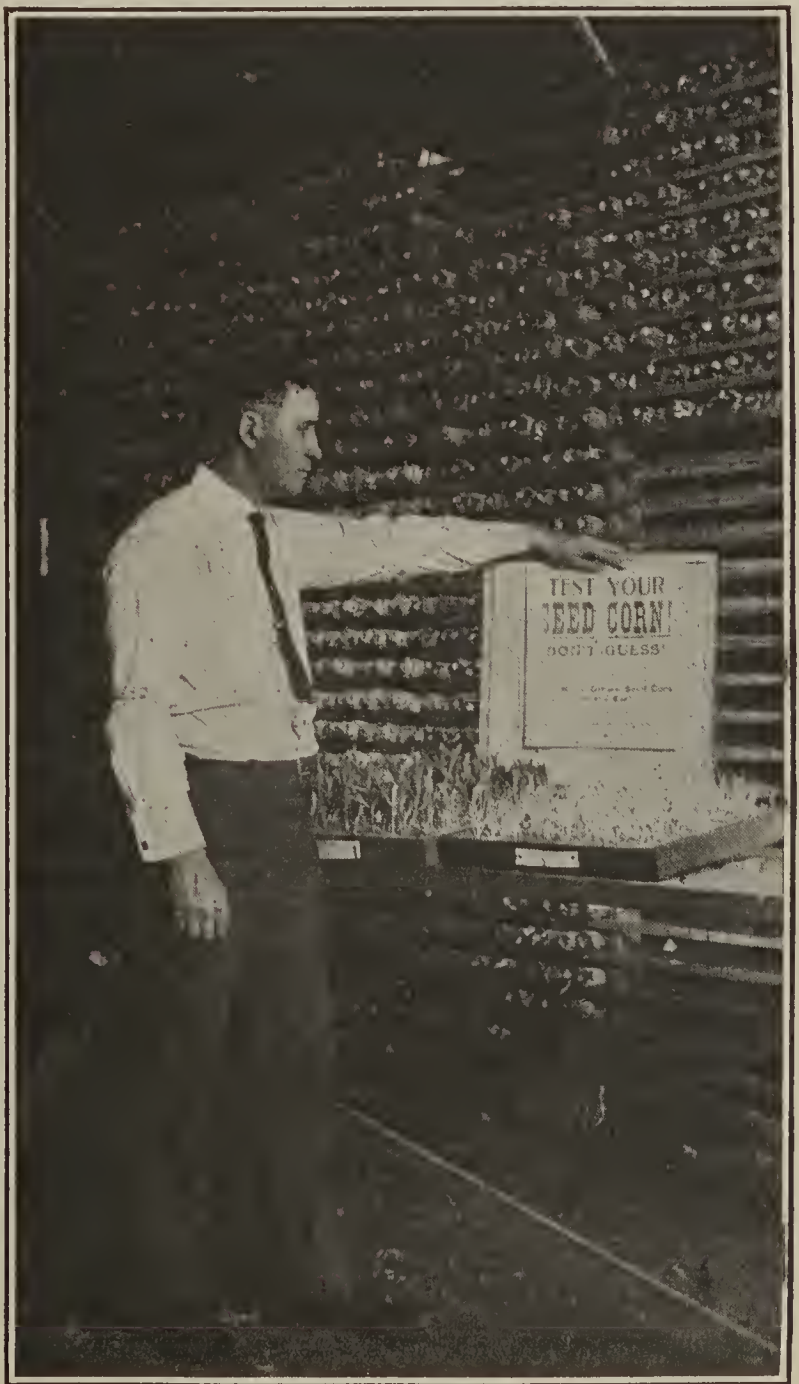


FIG. 10.—Seed room at the testing station organized by an Iowa county agent.

boy and girl sent to the farm bureau 6 grains each from 10 ears of seed corn. These were tested, and the results of the test returned to the boy or girl with a rag-doll tester. Over 1,500 tests were made. The average germination was less than 50 per cent. This threw the county into a panic. The county agent assisted 200 farmers and bankers in organizing a seed-corn testing station, which opened March 3, 1916, and continued in operation until May 20. (Fig. 10.) The station had a capacity of 20,000 ears or about 200 bushels of corn per week. Corn was tested at 75 cents per 100 ears, with the understanding that if this should exceed the cost of testing a refund would be made. Some of the corn sent in showed less than 5 per cent of germination. The situation grew alarming. Farmers began to send for "imported" seed, or seed from outside the State. This was to be avoided if possible. At the testing station but two cribs of corn of safe type for the locality were found, which showed good germination. This amounted to 1,104 bushels, and was purchased by the station, tested, and sold to farmers at cost, plus the cost of the test. Three hundred and eighty-five farmers either purchased tested seed of the association or used their own after being tested; 3,385 farmers visited the testing station while it was in operation. This campaign shows excellent organization throughout. Results—what it means in bushels or dollars can not even be guessed—but, ask anybody in Black Hawk County if it paid. The above table shows that in 207 counties more than 30,000 farmers tested seed corn for nearly 1,000,000 acres.

WORK WITH LIVE STOCK.

Below is given a summary of some of the principal lines of work involving live stock.

Principal lines of work with live stock.

Line of work.	Number.	Agents reporting.
Registered sires secured on agent's suggestion.....	6,264	279
Registered cows secured on agent's suggestion.....	2,654	198
Registered sires transferred from one community to another on agent's suggestion...	2,405	172
Cow-testing associations organized.....	215	137
Cows tested for milk production through associations.....	82,190	127
Cows discarded as a result of test.....	4,093	67
Cows tested for milk production by individuals.....	20,734	215
Farms adopting balanced rations figured by county agent.....	5,882	301
Live-stock breeding associations organized by agent.....	112	76
Total membership in such live-stock breeding associations.....	3,044	70
Animals tested for tuberculosis.....	18,011	111
Animals treated for blackleg.....	121,186	136
Hogs vaccinated for cholera by agent.....	48,965	77
Hogs vaccinated for cholera by veterinarians or farmers on agent's suggestion.....	161,372	138
Hog-cholera control clubs organized in 1916.....	134	31
Silos constructed.....	3,085	248

Most of the work summarized in the above table relates to animal diseases and herd improvement. However, not all the activities of



the agents relate to the problem of production. He is as much interested in bringing to the farmer the best information in regard to economy of marketing and distribution. During 1916 there was considerable agitation in many of the dairy districts in regard to the price of market milk. Surveys showed that the farmers were not getting enough for the milk to pay for the cost of production. Herds were being dispersed. The industry was threatened, strikes were in progress. The following account of how the situation was met in Hennepin County, Minn., is illustrative of service in an emergency. In March, 1916, the farm bureau suggested a meeting of a few of the milk producers to discuss with the county agent an economic adjustment of hauling routes. As a result of this meeting five local associations were formed. A conference was sought with the dealers in the Twin Cities to adjust differences and the farmers were told that they represented nobody and that the dealers could not deal with them. The hint was taken. The farm bureaus in Ramsey, Washington, and Dakota Counties united forces with that in Hennepin County. By August 30 local milk producers' organizations had been formed. The dealers were now ready to treat with the farmers because they "represented somebody." A satisfactory solution was found, good feeling was maintained, a possible strike was averted, and best of all an important agricultural industry was saved. Similar situations existed in New York and New England and equally satisfactory results were secured through timely action by the farm bureaus. In such campaigns as this the county agents point the way to successful cooperation and maintain their status as teachers without engaging in the work of organization or taking part in the business relations of the associations when formed.

An important service rendered by the county agents to farmers in connection with live stock was the counsel and advice given in the selection of 6,264 registered sires. These consisted of stallions, bulls, rams, and boars, and were bought by individual farmers or associations. The agent usually accompanied the farmers or committee of



FIG. 11.—County agent in California showing a farmer how to vaccinate for blackleg.



farmers and acted in the capacity of an expert in the selection of the animals. In a similar manner the agent frequently accompanies a committee of farmers in the purchase of dairy cows. Work of this sort has done much toward the standardization of breeds in several counties. In the far West the agent has demonstrated the method of vaccinating calves for blackleg to thousands of farmers (see fig. 11). His work along this line last year involved more than 120,000 calves.

#### WORK WITH SOILS.

Work in relation to soil improvement has continued to be one of the most important lines of work. Three thousand two hundred and twenty-five crop rotation systems were planned by county agents and adopted by farmers; 933 drainage systems involving 124,754 acres, were planned by county agents and the operation carried out by the farmers; 194 irrigation systems involving 19,829 acres were planned and developed. Farmers were assisted in the selection of fertilizers adapted to their soil requirements, in testing for soil acidity, home mixing of fertilizers, the developing of local sources of lime, and the conservation of the farm manure supply and its reinforcement with acid phosphate or ground rock phosphate. The State of Washington furnishes an interesting instance of land reclamation. In one of the smallest counties in the State, near the mouth of the Columbia River, there are large areas of land subject to overflow by the tides. Under natural conditions these lands are almost worthless but when diked so that the high tides do not overflow them, they comprise one of the most fertile areas in the State. During the past two and a half years since an agent began work in that county he has devoted much of his time to promoting diking districts through the cooperation of the land owners and has succeeded in multiplying the cultivatable area in the county more than three times. At a very conservative estimate the money value of the work inaugurated by this agent on this one project alone amounts to more than \$300,000.

#### WORK IN RELATION TO FARM BUSINESS MANAGEMENT.

Perhaps the most significant outgrowth of county-agent work has been in the increased popular conception of the farmer as a business man. From the very beginning of the work in the North and West the dominant idea has been "greater net profit per farm." Originating as the work did in the Office of Farm Management of the Department it is not strange that special emphasis should be given to economic production rather than maximum production. Agents have been encouraged to make farm analyses and community surveys to determine the true condition of the farming business and find out the profitable and unprofitable enterprises. In many of the States



special farm-management demonstrations have been conducted through which the county agent assisted by the farm-management demonstrator has not only demonstrated to the farmer a method of analyzing his business, but has collected data which has been of great value in determining what projects should be undertaken. During the past year the agents made analyses of 4,468 farms on 1,500 of which farm management was modified in some way as a direct result of the analysis. Eight thousand three hundred and thirty-seven farmers were induced to keep farm accounts. In many cases a simple method of bookkeeping, adapted to the farmer's business, was provided.

Almost every agent has stimulated the organization of a farmers' exchange. One hundred and twenty-seven new exchanges were organized during the past year. The total value of reported business done through the exchanges organized by the agents in this or in preceding years amounts to \$1,437,933. The actual amount of business conducted was doubtless two or three times this sum, as the exchange simply affords a medium of bringing the buyer and seller together, and often no report is made of the consummation of the transaction. Besides these exchanges, which handle no goods or funds, there has been increased attention given to the promotion of the organization of cooperative purchasing and marketing associations. These have been principally in connection with the marketing of live stock, fruit, potatoes, and milk, and the purchase of field seeds, feed, and fertilizers. By pooling their orders, buying in car lots and taking the goods direct from the car, farmers are often able to effect great saving. The total value of the business of these cooperative associations, whose organization was directly due to the agents' efforts, amounts to \$4,919,627. The increased profit or saving due to the cooperative efforts on the above business amounted to \$741,600, or equivalent to \$5,793 per county for the counties reporting work of this nature, which is more than \$1,500 greater than the average cost of a county agent to the county, State, and Government combined. The agents have been able to perform a valued service in putting the man needing help in touch with the man wanting work. Eight thousand five hundred and eighty-two laborers were furnished to farmers by the personal efforts of the county agents or through the medium of the exchanges.

#### SUMMARY OF DEMONSTRATION WORK.

As has been pointed out in this circular, it is impossible even to approximate the value to the community of the demonstrations conducted by the agents. The data comprised in the following table give the measurable results in a few lines of work where reasonably accurate figures can be given. In the crop demonstrations involved

in this table, test plats were used and the increase in yield and value is not a matter of guesswork but has been carefully determined.

*Some results of demonstration work.*

Kind of demonstration.	Number of demonstrations.	Number of meetings at demonstrations.	Total attendance at meetings.	Total area of demonstrations.	Resultant increase yield per acre.	Total profit due to increase.
Work with crops:						
Corn.....	1,110	383	7,317	48,302	15.5 bushels...	\$268,902
Oats.....	158	27	345	1,530	14.7 bushels...	11,921
Wheat.....	500	106	2,742	10,505	8.1 bushels....	85,250
Barley.....	25	4	27	90	6.5 bushels....	4,915
Flaxseed.....	76			1,502	2 bushels.....	7,524
Clover.....	372	54	1,107	3,265		56,167
Soy beans.....	340	100	2,136	2,946		24,693
Alfalfa.....	876	162	2,830	7,537½	1.6 tons.....	144,203
Forage.....	405	104	924	11,072½		415,697
Potatoes.....	868	409	9,738	6,753	39.7 bushels...	119,000
Plant diseases:						
Smut.....	4,716	1,053	27,993	407,114	4.6 bushels....	1,197,722
General.....	48	28	345	2,726		25,374
Miscellaneous crops.....	28	14	93	1,063		1,483
Horticulture.....	102	80	1,005	58,417		28,404
Orchard work (spraying and pruning).....	286	318	7,004			31,690
Control of rodents and animal pests.....	60	32	770	104,920		219,832
Control of insect pests.....	128	50	1,180	9,926		123,475
Weed eradication.....	23	9	83	84		1,140
Soil improvement:						
General.....	588	67	1,392	20,214		218,183
Liming.....	351	84	702	5,600		46,308
Total.....	11,060	3,064	67,733	703,567		3,031,883

It should be noted that the above table includes only 11,060 of the total of 32,845 demonstrations conducted. Each of the 21,000 demonstrations not included may have been of as great value to the community as any that are included. They either do not lend themselves to tabulation or the results were not determined with sufficient accuracy to be included. The profit of more than \$3,000,000 applies to the results secured on demonstration areas only and does not include the spread of influence from these demonstrations. While the amount is more than double the total salary and expenses of the 419 agents to the Government, States, and counties it but inadequately expresses the money value of county-agent work.

**BOYS' AND GIRLS' CLUB WORK.**

Some of the most effective work of the county agents has been with the young people through the boys' and girls' clubs. Two thousand six hundred and thirty-three such clubs were organized with 49,279 members. Through these clubs the agent has found it possible to do work that would have been otherwise difficult if not impossible. The county agent develops sentiment for boys' and girls' club work and assists the State club leader in finding local leaders. He is the judge of the soundness of the agricultural teaching involved in club projects and is available to the various clubs to assist them with agricultural information. As the club activities frequently illustrate some feature of the county-agent's project he often uses the club



demonstration plats as convincing illustrations of good farm practice. The agent does not as a rule have time to attend to such details of the club work as inspection of plats, judging of products, etc., which are attended to by the local club leaders.

The following is an interesting example of the influence of club work on a community. In this case the club members were for the most part mature people: In 1915 the agent in a Kansas county in one of his visits to a section where the farm bureau had been able to do but little work, found a farmer's wife who had had disappointing results in some home canning. She told him her troubles and asked for help. The agent told her that he could get instructions and receipts for her, but suggested that she interest other ladies in the community in organizing a canning club and in this way more and better help could be given. This was done and the county agent secured the help of the State club leader. A special meeting was called and the organization of the club was effected. They at once undertook to meet every two weeks, each meeting being given over to the canning of some different sort of fruit or vegetable. Usually this meeting was held at a country church or schoolhouse and there were always other members of the community present in addition to the members of the club. At the end of the year there were 22 members and more than 20,000 quarts of different vegetables had been canned. This work was taken up with renewed energy in 1916, and the club started with 60 members or 30 teams arranged as mother-daughter clubs and with added enthusiasm and interest, for the proof of the preceding year's work had been in the eating of the canned products during the long winter months. So much was said that practically the whole section of the country wished to enroll in the new year's work. The results of this club have been remarkable. A friendly spirit has developed and families that never had been neighborly began to get acquainted at the club meetings, which were not limited to the club members only. The country church which had been supported by one or two families began to grow and prosper under the influence of this club's activities and community spirit in this township has been greatly strengthened.

#### THE HOME-DEMONSTRATION AGENT.

During the past year county home-demonstration agents have been employed in 17 counties. This really marks the beginning of demonstration work with reference to the farm woman in the North and West with a local leader in charge. The county agents have, as in previous years, continued to give considerable attention to the problems of the home, particularly to home sanitation, water supply, sewage disposal, heating and lighting, fly campaigns, the vegetable garden, home canning, beautification of home grounds, poultry keeping, etc. With the further development of this movement some of the above

lines of work may probably be taken over by the woman home-demonstration agent. There is much in the field of extension work with farm women that needs the sympathetic assistance of a woman leader. The farm home is so closely bound to the farm business that they are really two parts of the same problem, work in relation to either necessarily involving the other. In counties having home-demonstration work as a distinct project the demonstrators work in the closest cooperation with county agents.

#### HOW TO SECURE A COUNTY AGENT.

Counties desiring to secure the appointment of county agents should first get into communication with the extension director at the State agricultural college. Through him assistance from the county-agent leader can be secured, who will be able to help those interested in starting the work. The requirements to be met by the counties vary somewhat in each State to conform to State laws. Usually, either a petition of a certain percentage of the farmers is required or the organization of a farm bureau must be effected before county funds can be secured. The county-agent leader will assist in holding meetings and explaining the general character of county-agent work. It is not wise to appoint an agent in a county until favorable public sentiment for such work exists among the rural people. That public sentiment is favorable should be made evident in some way by at least 10 per cent of the rural people in the county. When the State requirements have been met the county-agent leader furnishes a list of approved candidates from whom the local people select the county agent. His appointment is then recommended to the Department of Agriculture.

#### CONCLUSION.

The year 1916 was one of genuine progress. County-agent work is no longer an experiment. The farmers, many of whom at first doubted and held aloof, have found the agent a counselor and a friend; that he is "their" agent, helping them in the solution of "their" problems. He is no longer looked upon as an outsider, with an abundance of "advice," but as a sympathetic helper—not knowing it all but in touch with all that is known on the subject of farming and therefore able to secure and supply the required information on short notice. Through the farm bureau the agent develops an institution by means of which the farmers go to school to each other. The demonstrations of the county agent, as set out in the preceding pages, are important, but, as a direct result of the work, vastly more far-reaching has been the development of community ideals, community spirit, and community teamwork.





